Software Engineering: Processes and Tools

SuperPrice Website
Project Report

Introduction

The SuperPrice website was developed to make grocery shopping easier for consumers. This report provides an overview of our team's work process, from the initial idea to the final product. We aimed to create a tool where users can easily compare prices, search products, and arrange deliveries. Here, we'll discuss the steps we took, the challenges faced, and the final outcomes of our project.

Delta Between Milestone 1, 2 and 3

From Milestone 1 to 3, the team progressed from planning and requirement gathering to feature development and finally to beautifying the user interface and setting up deployment and integration systems.

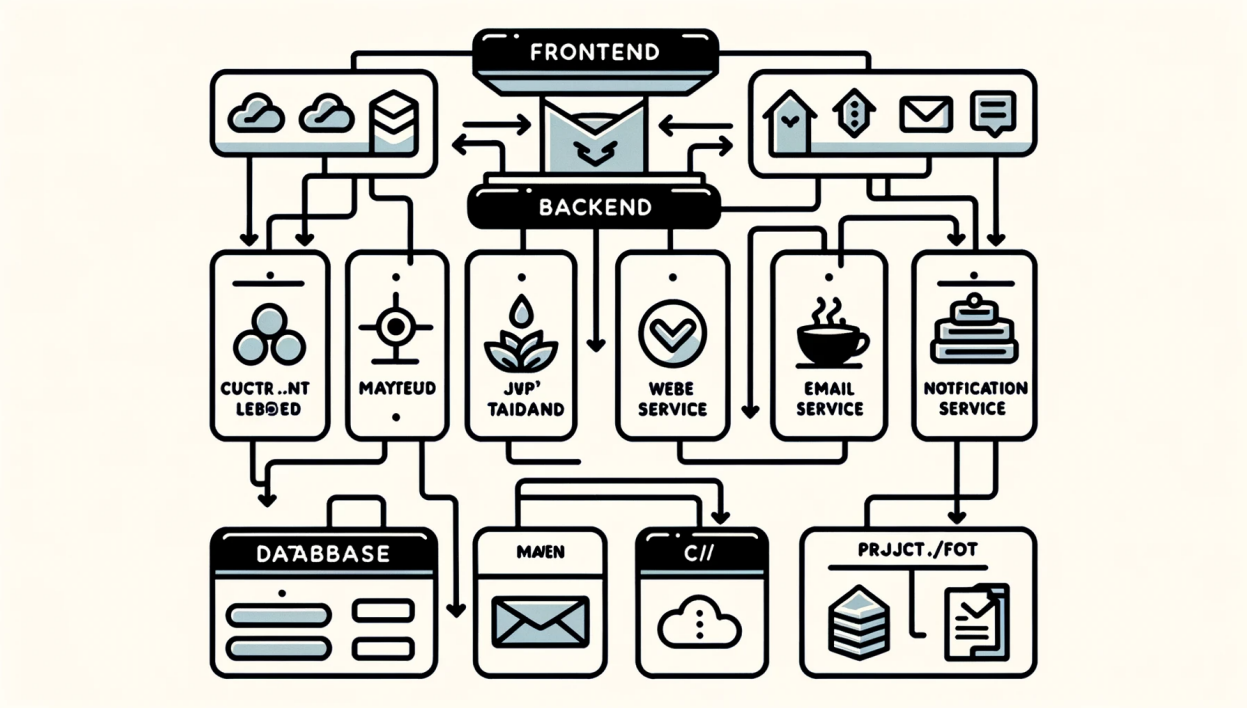
Dropped Features

1. **User Sign Up, Login, and Profile:** This feature was envisioned to offer a personalized shopping experience by allowing users to create accounts, sign in, and maintain a profile. Dropped due to time constraints.
2. **Delivery for Products:** Initially, a feature to provide delivery options for products was planned. It was dropped due to the complexity and the team's size reduction.
3. **Review and Rate Products:** Users were to be given the ability to review and rate products, offering a community-driven feedback system. This was dropped due to time constraints.
4. **User Notification on Product Discounts:** A feature to notify users of product discounts was planned to enhance user engagement. It was dropped due to the reduced team size and time constraints.

Vision Statement

The SuperPrice website is dedicated to transforming the grocery shopping experience by streamlining price comparisons and enabling informed purchasing decisions. In today's bustling world, consumers need efficiency, clarity, and convenience. By offering a comprehensive platform for price comparisons, SuperPrice provides immense value to every savvy shopper.

System Architecture



Refactoring Report

Throughout the development, the focus was on optimizing the code and ensuring maintainability. However, given the reduced team size, the refactoring was minimal, and the primary emphasis was on feature implementation and stability.

Git Organization Overview

The team continued using GitHub for version control and collaborative development. On average, team members committed changes 1-5 times per week, maintaining a consistent record of the development process.

Scrum Process

- **Meeting Frequency:** The team met 4 times per week in person.
- **Scrum Master:** The Scrum Master led the team through each sprint, ensuring tasks were allocated and completed efficiently.
- **Velocity:** Our team's velocity evolved over the milestones as follows:
    - **Milestone 1:** Requirement gathering and system design.
    - **Milestone 2:** Core features implementation.
    - **Milestone 3:** UI/UX enhancement and deployment setup.

Deployment Pipeline Setup

Our CI/CD pipeline was constructed using a YAML script for GitHub Actions:

- **Trigger**: The pipeline is triggered on each push to the main branch.
- **Jobs**:
    - **Build Backend:**
        - Set up on Ubuntu.
        - JDK 17 is configured.
        - Backend is built using Maven in the specified directory.
    - **Build Frontend:**
        - Set up on Ubuntu.
        - Node.js is used.
        - Dependencies are installed and tests are run for the frontend.

Conclusion

The SuperPrice project underwent several challenges, especially with the reduction in team size. However, the remaining members showcased determination and skill, ensuring the

project's successful completion. The developed system promises to offer users an efficient platform for comparing grocery prices, ensuring a streamlined shopping experience. Future iterations can consider reintroducing the dropped features once adequate resources are available.